



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,921	03/26/2004	Thomas Steven Bryson	1110-279	6750

6449 7590 11/22/2004

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER

LE, DAVID D

ART UNIT PAPER NUMBER

3681

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/809,921	Applicant(s) BRYSON ET AL	
	Examiner David D. Le	Art Unit 3681	S

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the first Office action on the merits. Claims 1-20 are pending.

Documents

1. The following documents have been received and filed as part of the patent application:
 - Information Disclosure Statement, received on 03/26/04

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 18 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an embodiment that includes a double-acting actuator, wherein the piston is urged in a first direction by a first fluid force and a second direction, opposite the first direction, by a second fluid force, does not reasonably provide enablement for an embodiment, wherein a spring and a first fluid force bias the piston in a first direction and a second fluid force urges the piston in a second direction, opposite the first direction. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with this claim.

Claim 18, which includes the limitations of claims 15 and 14, requires the piston to be urged in a first direction by both the spring biasing force and the first fluid force, which is not supported by the present specification.

Art Unit: 3681

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 7-13 and 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claims 7-13:

- Claim 7, line 12 recites the limitation “a piston disposed within said piston”. It is unclear what applicant is referring to by this claimed recitation.
- Claim 7, line 13 recites the limitation “said pushrod”. There is insufficient antecedent basis for this limitation in the claim.

Claims 14-20:

- Claim 14, line 14 recites the limitation “a pushrod coupled to said pushrod”. It is unclear what applicant is referring to by this claimed recitation.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U. S. Patent No. 6,540,634 to Thompson.

Claims 1-20:

Thompson (i.e., Figs. 3-4; column 3, line 1 – column 7, line 5) discloses a wheel differential shift mechanism comprising:

- A differential housing (column 3, line 34, being the axle housing);
- A differential cage (14) rotatably supported on the differential housing by a set of bearings (16 or 18);
- A bearing cap (20 or 22);
- A ring gear (40);
- A drive pinion (38) in mesh with said ring gear and inherently having an axis of rotation;
- A clutch assembly (24) having a first member (94) fixed to the differential cage (14) and a second member (96) configured to received an axle half shaft (68) extending from the differential cage (14);
- A differential lock assembly (26) including a shift chamber (90) disposed radially outwardly of an outer race member of the set of bearings (16), a piston (110) disposed within the shift chamber (90), a pushrod (112) coupled to the piston (110), and a shift arm (114) coupled to the pushrod (112) and configured to engage the second member (96) of the clutch assembly (24);

- Wherein the differential lock assembly (26) and the ring gear (40) are located on the same side of the axis of rotation of the drive pinion (see Fig. 3);
- A spring (116) for biasing the piston in a first direction (i.e., column 6, lines 45-46);
- Wherein the spring (116) comprises a wave spring (i.e., column 6, lines 34-37);
- Wherein the piston is urged in a first direction by a first fluid force (being the fluid force, which is overcome by the force of the spring (116) and the piston is urged in a second direction, opposite the first direction, by a second fluid force (i.e., column 6, lines 48-53); and
- Wherein the pushrod includes a flat and the shift chamber (90) includes a support plate (118) having an aperture with a corresponding flat, the aperture configured to receive the pushrod (112) (see Fig. 4).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Keller (U. S. Patent No. 5,030,181) teaches an arrangement of an electromagnet coupling gear as shown in Fig. 1.


Art Unit: 3681

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ddl


CHARLES A. MARMOR
SUPERVISORY PATENT EXAMINER
ART UNIT 3681